



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0146; Directorate Identifier 2012-SW-060-AD]

RIN 2120-AA64

Airworthiness Directives; Agusta S.p.A. Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) for Agusta S.p.A. (Agusta) Model A109E helicopters that requires reducing the tail rotor (T/R) blade life limit, modifying a T/R hub and grip assembly, re-identifying two T/R assemblies, clarifying the never-exceed speed (Vne) limitation and reducing the inspection interval. Since we issued that AD, the manufacturer has redesigned a T/R grip bushing (bushing) that reduces the loads, which caused the T/R cracking, on the T/R blades. This action would require installing the new bushing and re-identifying the T/R hub-and-grip and hub-and-blade assemblies and require a recurring inspection of each bushing. The proposed actions are intended to prevent fatigue failure of a T/R blade and subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact Agusta Westland, Customer Support & Services, Via Per Tornavento 15, 21019 Somma Lombardo (VA) Italy, ATTN: Giovanni Cecchelli; telephone 39-0331-711133; fax 39-0331-711180; or at <http://www.agustawestland.com/technical-bullettins>. You may review a copy of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

FOR FURTHER INFORMATION CONTACT: Sharon Miles, Aviation Safety

Engineer, Regulations and Policy Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, TX 76137; telephone (817) 222-5110; email sharon.y.miles@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

On June 12, 2002, a T/R blade on an Agusta Model 119 helicopter failed and resulted in an autorotative landing. As a result of this failure, based on the commonality of the T/R blades on the model 109E helicopter, Agusta issued Alert Bollettino Tecnico

(ABT) No. 109EP-30, dated June 21, 2002, for the Model 109E helicopter. The aviation authority for Italy, Ente Nazionale per L'Aviazione Civile (ENAC), issued Emergency AD No. 2002-340, dated June 28, 2002, for the Model 109E helicopters. On July 9, 2002, we issued Emergency AD 2002-14-51 to require a pilot-check before each flight, and initial and repetitive inspections of the T/R blades for a crack.

“As a precautionary measure,” Agusta issued Revision A, dated July 25, 2002, to ABT 109EP-30. On July 29, 2002, ENAC issued AD No. 2002-384, adopting the requirements of Revision A of this Agusta ABT. On October 17, 2002, we issued immediately adopted AD 2002-17-51 (67 FR 67510, November 6, 2002) to require a reduction in V_{NE} , a pilot-check of each T/R blade before each start of the helicopter engines, and initial and recurring inspections of each T/R blade for a crack.

Following increased ground vibrations in a Model A 109E helicopter, another crack was discovered in a T/R blade, which prompted Agusta to issue Revision B, dated November 17, 2002, to ABT 109EP-30. Analysis and tests had shown that the fatigue failure of the T/R blade was caused by unanticipated loads on the T/R blade. Revision B to that ABT specified maintaining the V_{NE} reduction until a new bushing was installed in the T/R grip assembly. Further, that ABT established, for T/R blade P/N 109-8132-01-111 on grip assembly P/N 109-8131-02-127, a retirement life of 200 hours TIS. ENAC adopted the provisions of Revision B of the Agusta ABT in ENAC AD No. 2002-592, dated November 28, 2002.

On February 14, 2003, we issued AD 2002-25-51, Amendment 39-13060 (68 FR 9504, February 28, 2003), to require:

For helicopters with T/R hub and blade assembly, part number (P/N) 109-8131-02-151 (the T/R hub and blade assembly consists of two T/R blades, P/N 109-8132-01-111, and one T/R hub and grip assembly, P/N 109-8131-02-127):

- Before further flight, installing a placard and marking the airspeed indicator to reduce the helicopter V_{NE} by 28 knots-indicated air speed (KIAS) in addition to any additional reduction in V_{NE} caused by optional equipment.
- Before each start of the helicopter engines, allowing an owner/operator (pilot) to check the T/R blade for a crack so long as the pilot records that AD compliance in the maintenance records in accordance with 14 CFR 43.9(a)(1)-(4) and 91.417(a)(2)(v).
- Within 5 hours time-in-service (TIS), and thereafter at intervals not to exceed 5 hours TIS, and before further flight any time there is an increase in vibration levels, inspecting each T/R blade for a crack using a 5x or higher magnifying glass.
- Establishing a new life limit for T/R blade, P/N 109-8132-01-111, of 200 hours TIS and requiring T/R blades with 190 hours or more TIS to be replaced within 10 hours TIS.
- On or before May 31, 2003, modifying and re-identifying the T/R hub and grip assembly and the T/R hub and blade assembly, which removes the V_{NE} restriction and restores the T/R blade life limit to 1,000 hours TIS.

For helicopters with T/R hub and blade assembly, P/N 109-8131-02-157 (the T/R hub and blade assembly consists of two T/R blades, P/N 109-8132-01-111, and one T/R hub and grip assembly, P/N 109-8131-02-159):

- Before each start of the helicopter engines, allowing an owner/operator (pilot) to check the T/R blade for a crack so long as the pilot records that AD compliance in the maintenance records in accordance with 14 CFR 43.9(a)(1)-(4) and 91.417(a)(2)(v).
- Within 25 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, and before further flight any time there is an increase in vibration levels, inspecting each T/R blade for a crack using a 5x or higher magnifying glass.
- On or before accumulating 150 hours TIS on the T/R hub assembly, P/N 109-8131-02-159, and thereafter at intervals not to exceed 150 hours TIS, inspecting the bushings, P/N 109-8131-30-109, linings for wear, and replacing any unairworthy bushing.

Also, the existing AD states that T/R blades, P/N 109-8132-01-111, which have been operated as part of the T/R hub and blade assembly, P/N 109-8131-02-151, are considered unairworthy components of the T/R hub and blade assembly, P/N 109-8131-02-157, regardless of TIS.

Finally, AD 2002-25-51 requires replacing any unairworthy T/R blade before further flight.

Actions Since Existing AD Was Issued

Since we issued AD 2002-25-51, Agusta has issued Revision C, dated September 29, 2006, to ABT No. 109EP-30, and states that the service experience of T/R hub and blade assemblies with the newly-designed bushings that reduce T/R blade loading has shown improvement and has determined that increasing the amount of time between inspections is appropriate, based upon the service history and the results of the maintenance performed.

In response to Revision C of the ABT, the European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD No. 2006-0353, dated December 4, 2006, which supersedes ENAC AD 2002-597 to extend the inspection interval “from 150 to 200 FH.” Subsequently, EASA AD No. 2007-0010, dated January 31, 2007, was issued to supersede AD No. 2006-0353 to restore the initial requirements of ABT 109EP-30, Revision C, which were unintentionally omitted from AD No. 2006-0353.

FAA’s Determination

These helicopters have been approved by the aviation authority of Italy and are approved for operation in the United States. Pursuant to our bilateral agreement with Italy, EASA, its technical representative, has notified us of the unsafe condition described in its AD. We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition is likely to exist or develop on other products of the same type design.

Related Service Information

We reviewed ABT No. 109EP-30, Revision C, dated September 29, 2006, which describes procedures for checking/inspecting for cracks on both the upper and lower surfaces of T/R blades, P/N 109-8132-01-111; replacing each bushing, P/N 109-0132-55 and spacer P/N 109-0132-13, with bushing, P/N 109-8131-30-109, and instituting a recurring inspection of each bushing; and cancelling the V_{NE} limitations when the newly-designed bushing is installed on each T/R grip assembly, P/N 109-8131-29-101, a “new” pair of T/R blades, P/N 109-8132-01-111, is installed, and the T/R hub-and-grip and hub-and-blade assemblies are re-identified.

Proposed AD Requirements

This proposed AD would require:

- Before each start of the helicopter engines, visually checking both sides of each T/R blade for a crack. An owner/operator (pilot) may perform this check and must enter compliance into the aircraft records in accordance with 14 CFR 43.9 (a)(1)-(4) and 14 CFR 91.417(a)(2)(v). A pilot may perform this check because it involves only a visual check for a crack and can be performed equally well by a pilot or a mechanic. This procedure is an exception to our standard maintenance regulations.
- For helicopters with T/R hub and blade assembly, P/N 109-8131-02-151, before further flight, modifying each T/R hub and blade assembly by installing a new bushing in each grip assembly and two zero-TIS T/R blades; and re-identifying the hub and grip assembly and the T/R hub and blade assembly with different P/Ns.
- For helicopters with T/R hub and blade assembly, P/N 109-8131-02-157, within 25 hours TIS and thereafter at intervals not to exceed 25 hours TIS, and before further flight any time there is an increase in vibration levels, using a 5x or higher power magnifying glass, visually inspecting each T/R blade for a crack.
- On or before accumulating 200 hours TIS on the T/R hub and grip assembly, and thereafter at intervals not to exceed 200 hours TIS, inspecting the linings and measuring the internal diameter of the bushings. If the internal diameter of the bushing exceeds 41.35 millimeters, replacing the bushing.
- If there is a crack, before further flight, replacing the T/R blade.
- Revising the Airworthiness Limitations section of the maintenance manual to reflect that a T/R blade, P/N 109-8132-01-111, which has not been operated as part of

T/R hub and blade assembly, P/N 109-8131-02-151, has a retirement life of 1,000 hours TIS.

Costs of Compliance

We estimate that this proposed AD would affect 75 helicopters of U.S. Registry. Based on an average labor rate of \$85 per hour, we estimate that operators may incur the following costs in order to comply with this AD:

- Visually inspecting the T/R blades would require about 0.5 work hours for a cost per helicopter of \$43 and a total cost to U.S. operators of \$3,225 per inspection cycle.
- Replacing a cracked T/R blade would require about 2 work hours, and required parts would cost about \$25,320, for a total cost per helicopter of \$25,490.
- Modifying the hub assembly with new T/R blades and bushings would require about 16 work hours, and required parts would cost about \$58,690, for a total cost per helicopter of \$60,050.
- Inspecting the T/R bushings would require about 7 work hours, for a cost per helicopter of \$595 and a total cost to U.S. operators of \$44,625 per inspection cycle.
- Revising the Airworthiness Limitations section of the maintenance manual would require about .25 work hour, for a cost per helicopter of \$22 and a total cost to U.S. operators of \$1,650.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 to read as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Amendment 39-13060 (68 FR 9504, February 28, 2003), and adding the following new Airworthiness Directive (AD):

AGUSTA S.p.A. (Agusta): Docket No. FAA-2013-0146; Directorate Identifier 2012-SW-060-AD.

(a) Applicability.

This AD applies to Agusta Model 109E helicopters with tail rotor (T/R) hub and blade assembly, part number (P/N) 109-8131-02-151 and P/N 109-8131-02-157, certificated in any category.

(b) Unsafe Condition.

This AD defines the unsafe condition as a fatigue crack in a T/R blade. This condition could result in failure of the T/R blade and subsequent loss of control of the helicopter.

(c) Affected ADs.

This AD supersedes AD 2002-25-51, Docket No. 2002-SW-55-AD, Amendment 39-13060 (68 FR 9504, February 28, 2003).

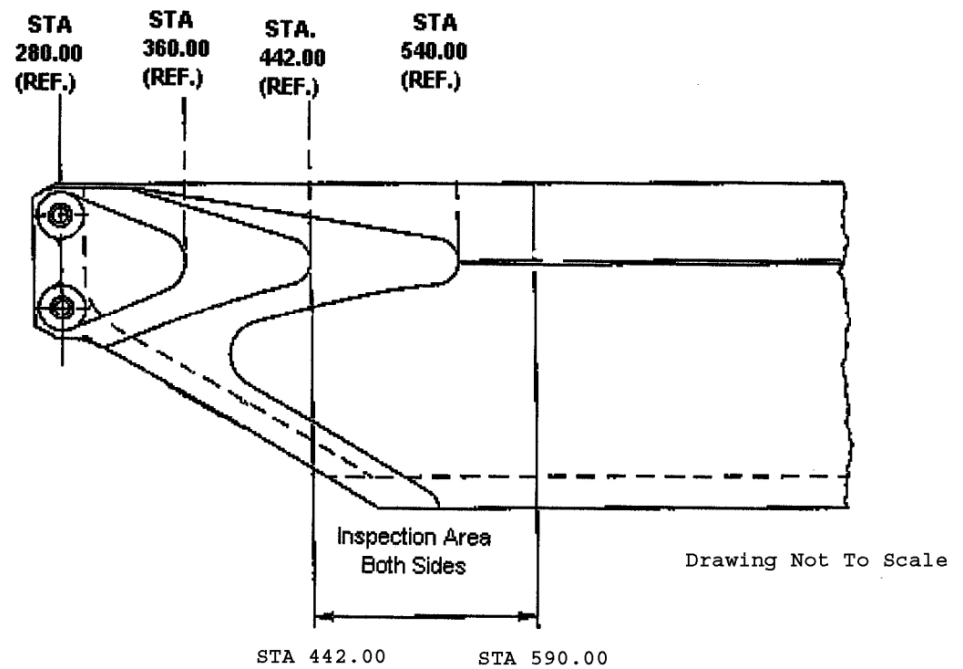
(d) Reserved.

(e) Compliance.

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) Required Actions.

(1) Before each start of the helicopter engines, visually check both sides of each T/R blade for a crack in the inspection area depicted in Figure 1 to paragraph (f) of this AD. This action may be performed by the owner/operator (pilot) holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9 (a)(1)-(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.173, 121.380, or 135.439.



Part Number 109-8132-01-111 Tail Rotor Blade

Figure 1 to paragraph (f)

(2) For helicopters with T/R hub and blade assembly, P/N 109-8131-02-151 (consisting of two T/R blades, P/N 109-8132-01-111, and one T/R hub and grip assembly, P/N 109-8131-02-127), before further flight, modify each T/R hub and blade assembly by installing a new bushing, P/N 109-8131-30-109, in each grip assembly and two zero-hour time-in-service (TIS) T/R blades, P/N 109-8132-01-111; re-identifying the hub and grip assembly as P/N 109-8131-02-159; and re-identifying the T/R hub and blade assembly as P/N 109-8131-02-157 in accordance with the Compliance Instructions, Part V, paragraphs 2. through 13., of Agusta Bollettino Tecnico No. 109EP-30, Revision C, dated September 29, 2006 (BT). A T/R blade, P/N 109-8132-01-111, which has been operated as part of T/R hub and blade assembly, P/N 109-8131-02-151, must be retired regardless of TIS and may not be used as part of the T/R hub and blade assembly, P/N 109-8131-02-157. Returning the removed T/R blades, grips, or bushings to Agusta is not required.

(3) For helicopters with T/R hub and blade assembly, P/N 109-8131-02-157 (consisting of two T/R blades, P/N 109-8132-01-111, and one T/R hub and grip assembly, P/N 109-8131-02-159), within 25 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, and before further flight any time there is an increase in vibration levels, using a 5x or higher power magnifying glass, visually inspect each T/R blade for a crack in accordance with the Compliance Instructions, Part III, paragraphs 1. through 5. of the BT. Reporting to Agusta is not required.

(4) On or before accumulating 200 hours TIS on the T/R hub and grip assembly, P/N 109-8131-02-159, and thereafter at intervals not to exceed 200 hours TIS, inspect the linings and measure the internal diameter of the bushings, P/N 109-8131-30-109, by

referring to Figure 2 of the BT. If the internal diameter of the bushing exceeds 41.35 millimeters, replace the bushing.

(5) If there is a crack in a T/R blade, before further flight, replace the cracked T/R blade.

(6) Revise the Airworthiness Limitations section of the maintenance manual to reflect that a T/R blade, P/N 109-8132-01-111, which has not been operated as part of T/R hub and blade assembly, P/N 109-8131-02-151, has retirement life of 1,000 hours TIS.

(g) Special Flight Permit.

Special flight permits will not be issued.

(h) Alternative Methods of Compliance (AMOCs).

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Sharon Miles, Aviation Safety Engineer, Regulations and Policy Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas, 76137; telephone (817) 222-5110; email sharon.y.miles@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(i) Additional Information.

The subject of this AD is addressed in European Aviation Safety Agency AD No. 2007-0010, dated January 31, 2007.

(j) Subject.

Joint Aircraft Service Component (JASC) Code: 6410, Tail Rotor Blades.

Issued in Fort Worth, Texas, on February 11, 2013.

Kim Smith,

Manager, Rotorcraft Directorate,

Aircraft Certification Service.

[FR Doc. 2013-04220 Filed 02/22/2013 at 8:45 am; Publication Date: 02/25/2013]